

IEC 61850 Certificate Level A¹

Issued to:

ETAP
17 Goodyear Irvine
California 92618
USA

For the server product:

iCE-CPU Intelligent Remote Terminal Unit
Firmware version: 4.20.0
IEC 61850 version: s61850 3.0.0
S/N: 23194605

The server product has not been shown to be non-conforming to:

IEC 61850 Edition 2 Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems for power utility automation

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in iCE-CPU version 1.5", "Model Implementation Conformance Statement for the IEC 61850 Ed2 server interface for iCE-CPU version 1.00" and "TISSUES Implementation Conformance Statement for the IEC 61850 Edition 2 server interface in iCE-CPU version 1.00" and the extra information for testing: "Protocol Implementation extra Information for Testing(PIXIT) for the IEC 61850 Edition 2 server interface in iCE-CPU version 1.5".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1 Basic Exchange (20/26)	12a Direct Control (6/18)
2 Data Sets (4/7)	12b SBO Control (11/27)
2+ Data Set Definition (24/24)	12c Enhanced Direct Control (6/20)
5 Unbuffered Reporting (21/23)	12d Enhanced SBO Control (13/28)
6 Buffered Reporting (31/33)	13 Time Synchronization (4/7)
9a GOOSE Publish (12/13)	14 File Transfer (5/8)

This certificate includes a summary of the test results as carried out at DNV in The Netherlands with UniGrid SA Simulator 2.2.0 with test suite 20240314.1 and UniCA 61850 Analyzer 6.45.01. This document has been issued for information purposes only, and the archived DNV verification report No. 10443158-DSO 24-4145 rev 2 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV by ETAP. The manufacturer's production process has not been assessed. This certificate does not imply that DNV has approved any product other than the specimen tested.

Arnhem, April 25, 2024



K. Lazaridis
Test Engineer

Issued by:




R. Schimmel
Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System
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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv9, sSrv10, sSrv12
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop5, sGop6, sGopN1, sGopN2
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl15, sCtl17
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl15, sCtl17
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl15, sCtl17
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6, sCtl15, sCtl17
13: Time sync	sTm1, sTm2, sTmN1	sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	